

8.3.3 Normalized Annual End Uses of Water in Select Restaurants in Western United States (1)

| <u>Fixture/End Use (2)</u> | <u>Range of Water Use</u> <u>(gal/SF)</u> | <u>Range of Water Use</u> <u>(gal/seat)</u> | <u>Range of Water Use</u> <u>(gal/meal/day)</u> |
|--|--|--|--|
| Faucets | 68.9 - 250 | 1225 - 4630 | 1.1 - 2.6 |
| Dishwashing | 54.4 - 183.3 | 970 - 3000 | 0.9 - 1.4 |
| Toilets/Urinals | 25.6 - 75 | 455 - 1230 | 0.4 - 0.5 |
| Ice Making | 7.8 - 44.6 | 140 - 1440 | 0.1 - 0.9 |
| Total Indoor Use | 163.3 - 563.3 (3) | 2910 - 15350 (4) | 2.7 - 16.2 (4) |
| Building Size (SF) | 1200 - 9800 | Seats: 73 - 253 | Meals: 190 - 800 |
| | Logged average <u>daily use (thousand gal)</u> 1.5 - 9.7 | Indoor peak instantaneous <u>demand, gpm (5)</u> 21.1 - 59.6 | |
| Benchmarking Values for Restaurants (6) | N | <u>25th Percentile of Users</u> | |
| Gal./SF/year | 90 | 130 - 331 | |
| Gal./meal | 90 | 6 - 9 | |
| Gal./seat/day | 90 | 20 - 31 | |
| Gal./employee/day | 90 | 86 - 122 | |

Note(s): Family-style dine-in establishments. Four restaurants in southern California, one in Phoenix, AZ. 1) Water use data for the buildings was collected over a few days. Estimates of annual use were created by accounting for seasonal use and other variables, billing data, and interviews with building managers. 2) Based on three restaurants. 3) Based on four restaurants. 4) Based on five restaurants. 5) gpm = gallons per minute. 6) The study derived efficiency benchmarks by analyzing measured data and audit data. The benchmark was set at the lower 25th percentile of users.

Source(s): American Water Works Association Research Foundation, Commercial and Institutional End Uses of Water, DeOreo, William et. al., 2000